OIML Certificate

OIML Member State
The Netherlands

Number R137/2012-A-NL1-25.06 revision 0
Project number 4023314

Issuing authority	NMi Certin B.V. Person responsible: M.Ph.D. Schmidt
Applicant and Manufacturer	Transus Instruments B.V. Bloesemlaan 4 3897 LN Zeewolde The Netherlands
Identification of the certified type	An **Ultrasonic Gas Meter** Manufacturers mark: Transus Instruments B. V. Type: LPM-zD
Characteristics	See following pages

This OIML Certificate is issued under scheme A.

This Certificate attests the conformity of the above identified type (represented by the sample(s) identified in the OIML Type Evaluation Report) with the requirements of the following Recommendation of the International Organization of Legal Metrology (OIML):

R 137-1:2012 "Gas meters"

Accuracy class 1,0

This Certificate relates only to the metrological and technical characteristics of the type of measuring instrument covered by the relevant OIML International Recommendation identified above.
This Certificate does not bestow any form of legal international approval.

Important note: Apart from the mention of the Certificate's reference number and the name of the OIML Member State in which the Certificate was issued, partial quotation of the Certificate and of the associated OIML Type Evaluation Report(s) is not permitted, although either may be reproduced in full.

Issuing Authority **NMi Certin B.V., OIML Issuing Authority NL1**
17 November 2025

Certification Board

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The conformity was established by the results of tests and examinations provided in the associated report(s):

- No. NMi-3628146-01 dated 17 November 2025 that includes 56 pages.

Characteristics of the measuring instrument
In Table 1 the general characteristics of the measuring instrument are presented.
In Table 2 the characteristics of the family of instruments are presented.
The construction of the measuring instrument is recorded in the Documentation folder no. T13135-1.

Table 1 General characteristics

Destined for the measurement of	Gas Volume
Intended for the measurement of	Natural Gas
Accuracy class	1,0
Minimum – maximum flow rate	See table 2
Minimum - Maximum pressure	1 - 20 bar(a)
Ambient temperature range	-25 – +55 °C; Condensing humidity
Gas temperature range	-25 – +55 °C
Designed for	Condensing humidity
Orientation	All orientations
Flow direction	Uni-Directional - forward
Environmental classes	M1 / E2
Transducer	Transducer types L3-25 3-path 250 kHz
Path angle	60°
Inlet / Outlet Piping	0D / 0D
Power supply voltage	External 14 - 28 V DC power supply or a 14,4 V DC battery. When powered by external 14 - 28 V DC power supply, the internal battery pack is available as a backup power supply. During a power failure the internal battery keeps the meter running.
Software identification	See table 3

Table 2 Flow characteristics of the gas meter

Meter Size		Internal flow channel bore diameter	Minimum flow velocity V_{min}	Minimum Transitional flow velocity V_t	Maximum flow velocity V_{max}
Inch	DN	[mm]	[m/s]	[m/s]	[m/s]
2"	DN50	43	0,2	3,5	35
3"	DN80	66			
4"	DN100	84			
6"	DN150	105			

The corresponding flow rates can be calculated as follows:

$$Q = v \cdot \frac{1}{4} \cdot \pi \cdot D^2 \cdot 3600$$

Where:
Q = flow rate [m³/h]
v = velocity [m/s]
D = internal flow channel bore diameter [m].

Note:
If higher values are chosen for Q_{min} or Q_t and/or lower values for Q_{max}, it has to be taken into account that:

- If ratio $5 \leq Qmax:Qmin < 50$ then ratio $Qmax:Qt \geq 5$
- If ratio $Qmax:Qmin \geq 50$ then ratio $Qmax:Qt \geq 10$

Table 3 Software identification of the gas meter

SW identifier	Version	CRC
Firmware / FPGA	1.3.0.92 / 01.00.01.16	0x38860BC1

The software versions can be read out on the gas meter display by navigating
Menu → System Info.

Installation conditions:

Installation requirements
Any components which could affect the gas flow must be avoided within the prescribed inlet pipe length of 0 DN and at least 3 DN for the outlet pipe length. The inlet and outlet pipe must be designed as a straight pipe section of the same nominal diameter as the gas meter.

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Certificate history:

Revision	Date	Description of the modification
0	17 November 2025	- Initial - Parallel certificate of R137/2012-A-NL1-25-05 issued by NMi.